

ABSTRACT

According to one exemplary embodiment, a method for forming a field-effect transistor on a substrate comprises a step of forming a high-k dielectric layer over the substrate. The high-k dielectric layer may be, for example, hafnium oxide or zirconium oxide. The method further comprises forming a first polysilicon layer over the high-k dielectric layer, where the first polysilicon layer is formed by utilizing a precursor does not comprise hydrogen. The first polysilicon layer can have a thickness of between approximately 50.0 Angstroms and approximately 200.0 Angstroms, for example. According to this exemplary embodiment, the method can further comprise forming a second polysilicon layer over the first polysilicon layer. The second polysilicon layer may be formed, for example, by utilizing a precursor that comprises hydrogen, where the first polysilicon layer prevents the hydrogen from interacting with the high-k dielectric layer.

**Figure 3 should accompany the Abstract.**